Building a shared representation of socio-ecological system dynamics to develop a territorial adaptation strategy: Experiences from three watershed territories in Latin America

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Introduction
Coping with climate change (CC) is an issue for local stakeholders in territories. Developing sound local strategies to cope with CC requires a better understanding of on-going dynamics. Building a representation of ongoing socio-ecological processes is a first step to induce a collective reflection on the possible future scenarios and define collaborative action plans.

Objective
Develop and test a method to grasp and characterize local dynamics of the socio-ecological system (SES) and build a shared representation of these dynamics (conceptual models).

Material and Methods
- Three territories with conservation issues in Latin America: Bosque Modelo Chiquitano (BMCh) in Bolivia, Bosque Modelo Jujuy (BMJ) in Argentina, Bosque Modelo Araucarias de Alto Malleco (BMAAM) in Chile (Fig.1).
- An overall conceptual framework (Fig.2) - An adaptation of Problem, Actors, Resources, Dynamics, Interactions (PARDI) derived from Etienne et al. (2011) according to the territories, especially the availability of data and existing stakeholders’ processes (Fig.3).

Results
The analysis of socio-ecological dynamics can help to define a shared representation of a SES and integrates different types of knowledge.
Existing participatory process and consolidated organizations such as the Model Forest facilitate the successful application of the method.

Conceptual models enable to create a synthetic vision of actors / resources interactions in each territory (Fig. 4. a, b, c).

Conclusion
Participatory modeling (PARDI) is a way to strengthen local stakeholders’ reflexive and abstraction capacity, necessary to define innovative solutions and overcome existing tensions on resources. Promoting a local stakeholders’ learning process contributes to create Climate Smart Territories.

References

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